

Projected Climate Change Indices over Central Europe Using Dynamically Downscaled CMIP6 Models

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Methodology

KFA

3 models

- Miroc6
- TaiESM1 (AS-RCEC)
- MRI-ESM2-0

3 Scenarios

- SSP245
- SSP370
- SSP585

3 Periods

- 1991-2010
- 2031-2050
- 2081-2100

Precipitation

Annual Pr

Consecutive
Dry Days
(CDD)

Very heavy
R20mm

Simple daily

Consecutive
Wet Days
(CWD)

Frost days

Ice days

Tropical
nights

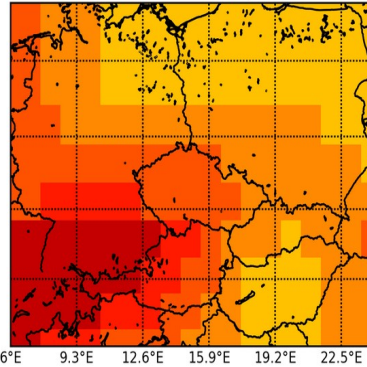
Temperature

Precipitation (Pr) indices

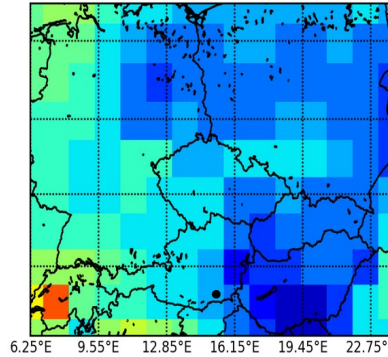
1• **PRCPTOT** (mm/year) annual sum of Pr when daily sum is over 1 mm

2• **SDII** (mm/day) simple daily Pr intensity calculated as PRCPTOT divided by WD number

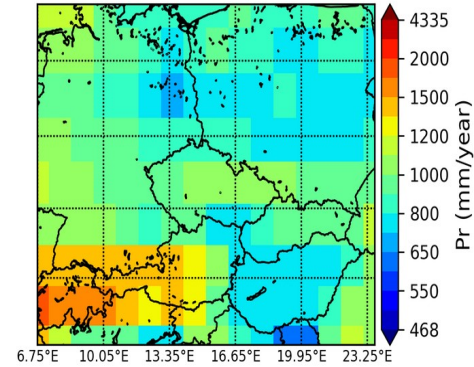
Miroc6 Mean Annual Pr (1991-2010)



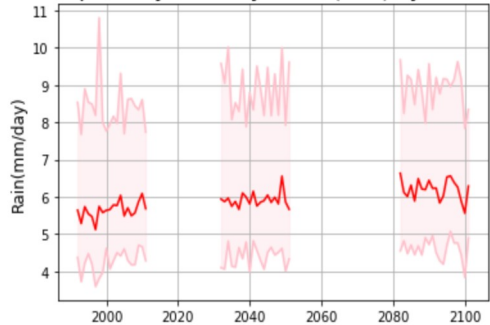
TaiESM1 Mean Annual Pr (1991-2010)



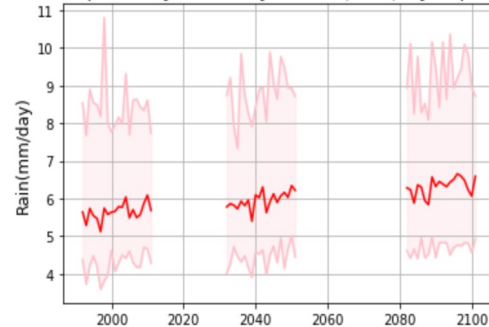
MRI Mean Annual Pr (1991-2010)



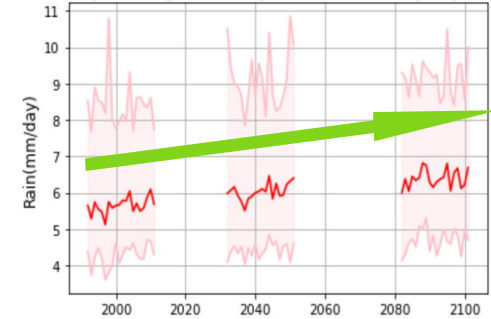
Simple daily intensity index (SDII) by SSP245



Simple daily intensity index (SDII) by ssp370

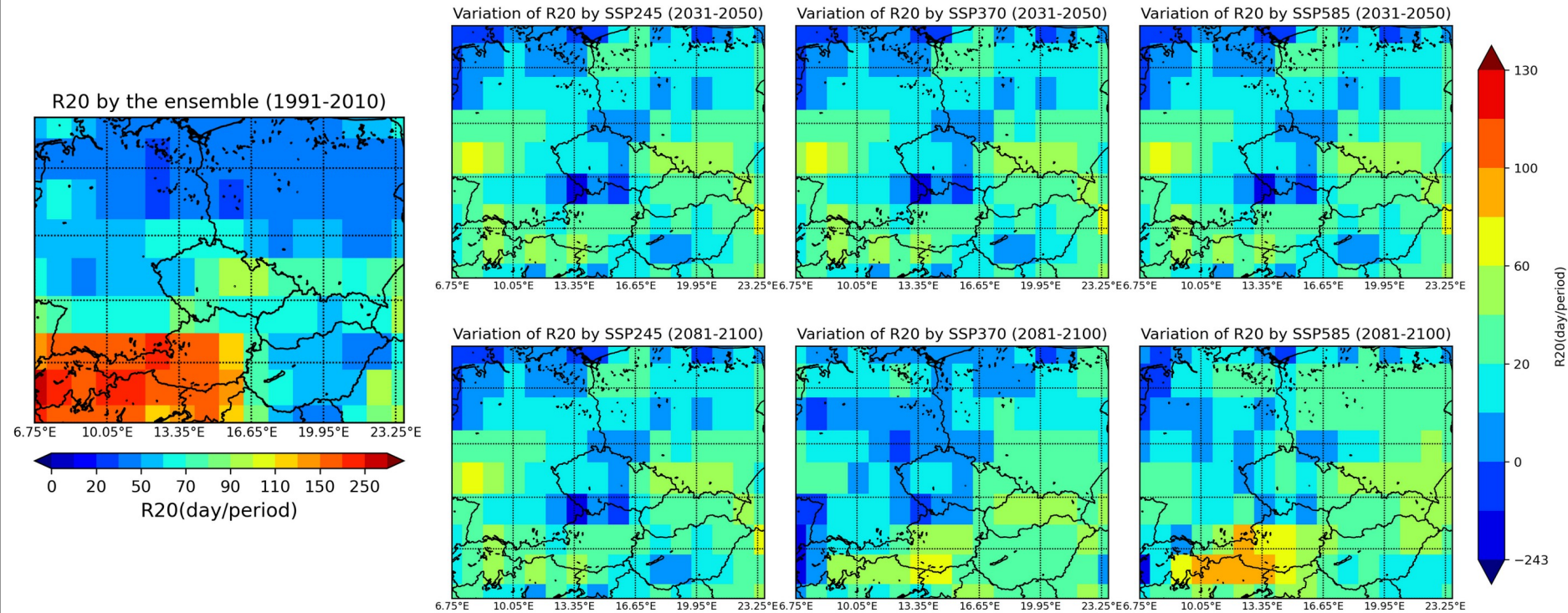


Simple daily intensity index (SDII) by ssp585



Precipitation indices

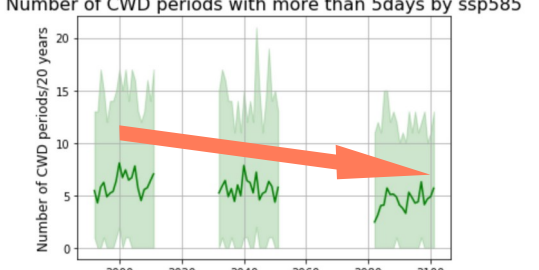
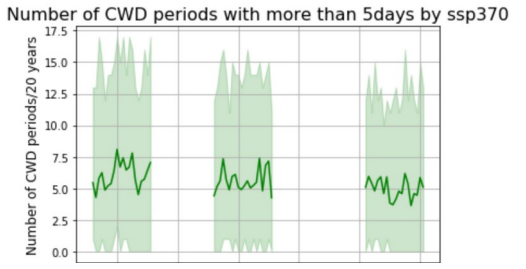
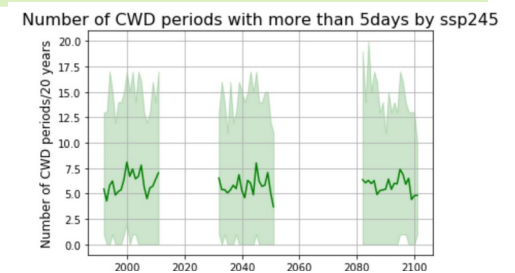
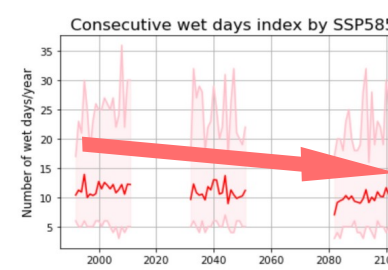
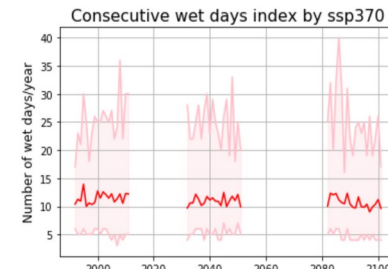
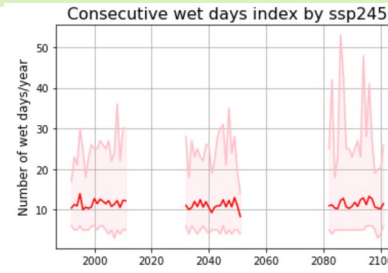
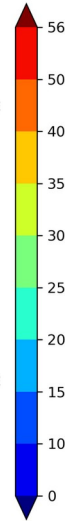
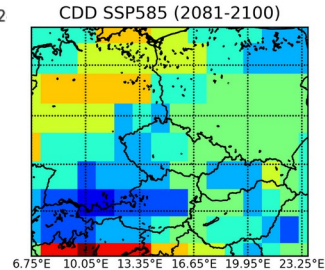
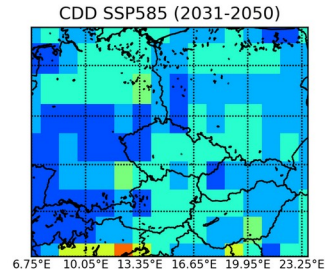
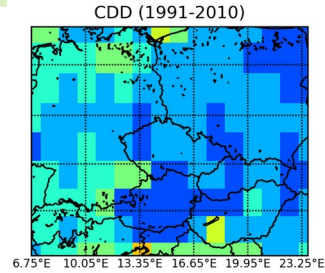
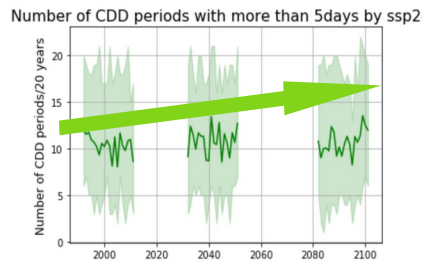
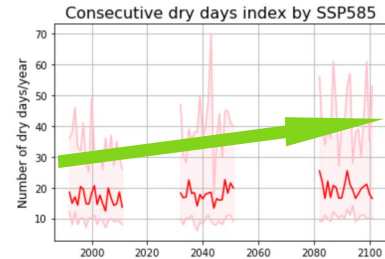
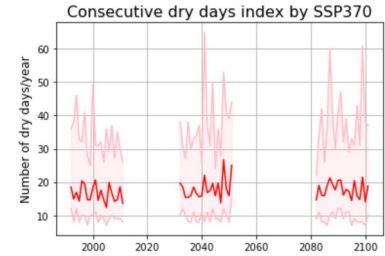
3. Very heavy precipitation days (R20mm): Number of days per year where rainfall (R) ≥ 20 mm.



Precipitation indices

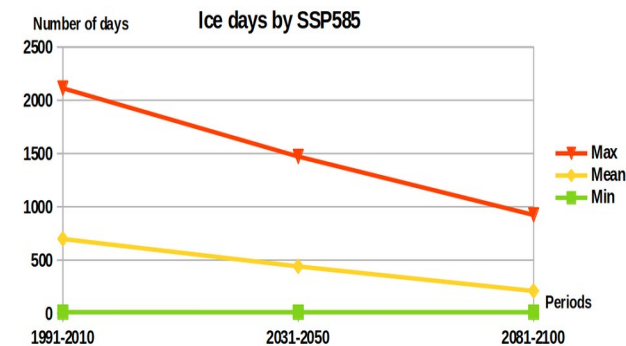
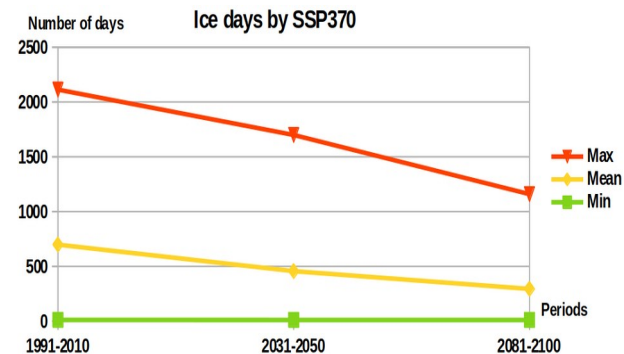
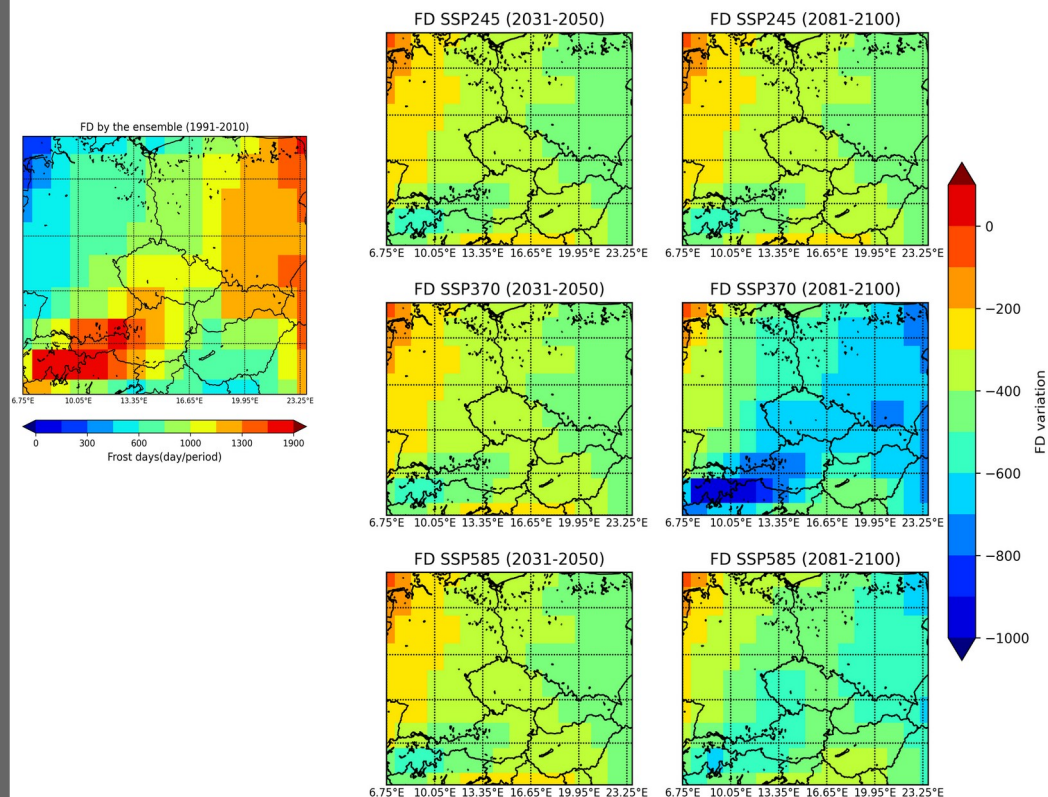
4• CDD longest period/year with consecutive DD Number of cwd periods > 5 days per time period

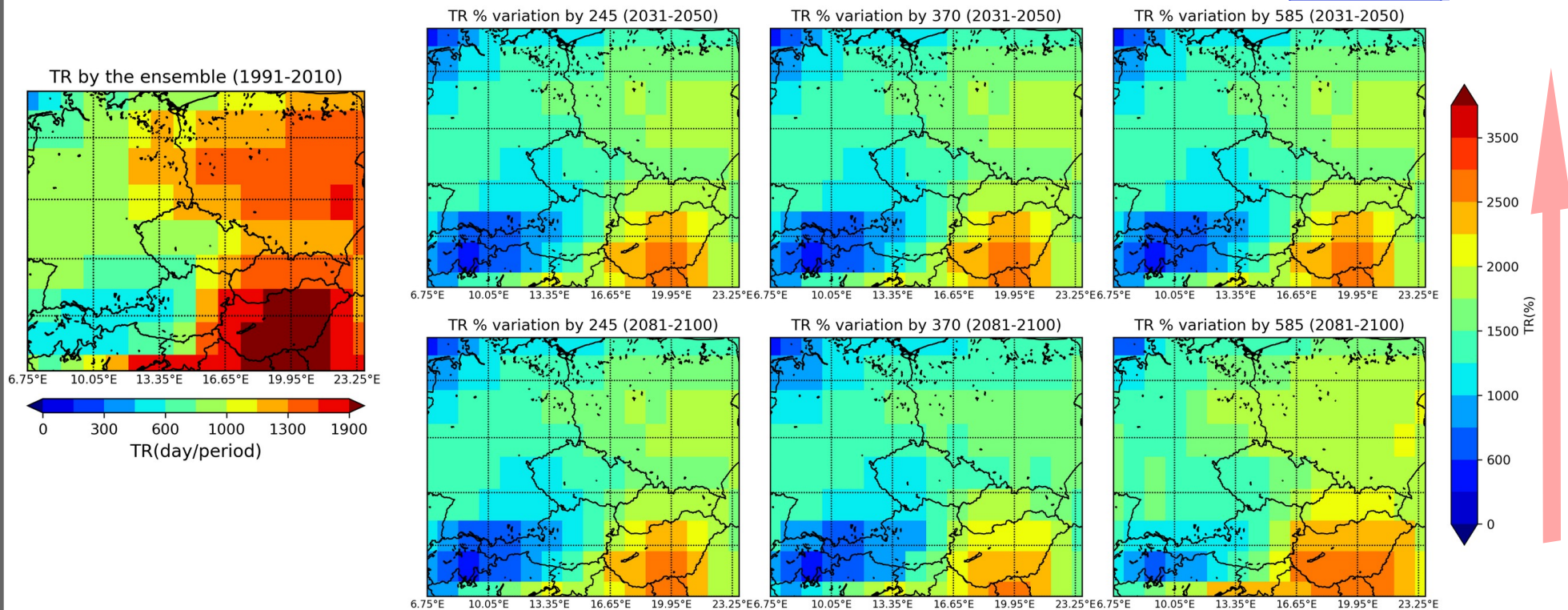
5• CWD longest period/year with consecutive WD Number of CDD periods > 5days per time period



Temperature indices

1. **Frost days (FD)**, number of days per year when daily minimum temperature is less than 0° ;
2. **Ice days (ID)**, number of days per year when daily maximum temperature is less than 0° .





Thank you for your attention

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